ABSTRACT

A rate-based congestion control technique for internetworking devices having a plurality of input interface queues is disclosed. Rate-based polling comprises estimating the data arrival on each input interface queue while in a first sampling state, and

5 separately, while in a second polling state, using the estimated data arrival rate on each input interface queue to determine both the sequence in which the input interface queues should be polled and the number of packets to be processed from each input interface queue. While in the polling state, data packet delay is averaged across the input interface queues so as to process the packets in their approximate arrival order irrespective of the

10 input interface queue on which they arrive, thus enabling Quality of Service policies to be more effective. This is achieved by processing data from each input interface at a rate that is proportional to the data arrival rate at each input interface. Rate-based polling reduces possibly lengthy delay of a packet in an input interface queue, and also avoids possible packet loss caused by long waiting time of data packets in an input interface

15 queue with limited buffer space.